

REMARKS

This amendment, submitted in response to the Office Action dated August 14, 2001, is believed to be fully responsive to each point of rejection raised therein. Accordingly, favorable reconsideration on the merits is respectfully requested.

Claims 1, 3, 12/1 and 12/3/1 have been rejected under 35 U.S.C. § 103 as being unpatentable over Takanashi (previously of record) in view of Michelson (U.S.P. 6,204,874). Claims 2, 4-5, 12/2/1, 12/4/3/1 and 12/5/1 have been rejected under Section 103 as being unpatentable over Takanashi and Michelson and further in view of Fujimura (previously of record). Claims 2 and 17 have been rejected under Section 103 as being unpatentable over Takanashi in view of Michelson and further in view of Koguchi et al. (U.S.P. 5,578,824, hereafter "Koguchi"). Applicant respectfully submits the following comments and arguments in traversal of the prior art rejections.

Applicant's elected invention relates to an image forming method. Detailed descriptions of the background and preferred embodiment of the invention are set forth in the August 4, 2000 Amendment at pages 6-7. Similarly, Fujimura is described in the August 4 Amendment at page 7. Takanashi is described in the April 23, 2001 Amendment at pages 3-4. Applicant refers the Examiner to these descriptions.

Further to these descriptions, it is noted that the supply of a binder material, such as wax, and a toner material in Takanashi are each provided in continuous roll form.

Turning to the newly cited art, Michelson relates to an apparatus for loading a recording material and successive donor sheets onto a recording drum using a vacuum disposed within the drum core as a holding mechanism. Referring to Fig. 2, a drum 1 has vacuum holes 12, and is

connected to a vacuum pump. A receiver sheet 8 disposed on the drum becomes covered by donor sheets 9, 10, 11, 12, in succession. The sets of donor sheets and receiver sheets are stored in tray 4, which can be moved towards the drum by an actuator 6 and pivot 7. The action of the vacuum attracts the materials to the drum. Because some receiving sheets are not permeable to a vacuum source, the donor sheets must extend beyond the receiver sheets by some margin in order for the vacuum to be effective to hold the donor sheets against the drum.

At col. 4, lines 5-7, the receiver sheet 8 of Michelson is described as a sheet which is subsequently provided to a tray 5. Accordingly, Michelson appears to teach a configuration similar to that described in the background section of the invention. Nothing in Michelson would obviate a further step and an [?] additional drum for transferring the image on receiver sheet 8 onto a final recording sheet. Moreover, the fact that a receiving sheet 8 may comprise paper would not require a process for forming an image receiving layer on a recording sheet as described in claim 1.

*Not
claimed.*

Koguchi relates to a structure of a donor sheet material.

The Examiner maintains that the combination of Takanashi and Michelson teaches or suggests each feature of independent claim 1. The Examiner correctly concedes that Takanashi fails to teach toner sheets provided in a cut sheet form, but cites Michelson to make up for this deficiency. The rejection is not supported for the following reasons.

First, Applicant notes that the binder material described in Takanashi comprises materials such as wax, which could not be effectively penetrated by a vacuum. See Takanashi col. 2, lines 29-31. If such a binder material were to be included on the receiving sheet of Michelson, this

would defeat the ability for the vacuum to hold subsequent sheets of donor materials to the drum without a redesign of the Michelson reference in ways that are not suggested by the Michelson disclosure.

Second, Applicant notes that the binder material provided in Takanashi is provided in a continuous form. If the continuous binder forms of Takanashi were combined with Michelson, the continuous roll form of the binder would necessarily obstruct the vacuum holes in the recording drum and eliminate the ability for the Michelson device to attach successive toner sheets onto the drum. The Michelson reference is completely silent as to such binders and how to apply such binders within the apparatus. Neither Michelson nor Takanashi makes any suggestions on changes in the form of how the binder should be applied to a recording sheet.

Third, the mere combination of Michelson and Takanashi would not obviate many of the deficiencies in the art, including the additional step for transferring images to a final recording sheet. In particular, the mere fact that Michelson uses a paper sheet 8 does not necessarily implicate forming an image to an image receiving layer of a recording sheet. A subsequent transfer may be required. Takanashi is directed to a fundamentally different type of image transfer than Michelson. Therefore, one skilled in the art would not combine the formation of images to the image receiving layer based on the teachings of Michelson.

not claimed.
true, but this is taught by Takanashi.
No. Both are thermal transfer printers

In view of the foregoing, Applicant would argue that the combination of Michelson and Takanashi is not feasible given the teachings of each reference. The inclusion of the binder characteristics of Takanashi would defeat the principle of operation of Michelson, and the inclusion of the binder would necessitate changes in design that are not taught or suggested by

either reference. Moreover, the two references teach a fundamentally different technique, where Michelson likely includes the additional steps and equipment that was necessary in conventional techniques, but which are obviated in the present invention. This further demonstrates that the primary rejection is based in improper hindsight reconstruction of the claim rather than on what the references fairly suggest. Therefore, independent claim 1 is patentable for at least this reason. Claims 2-12 and 17 are patentable based on their dependency.

With further regard to claim 12, this claim describes that each of the steps of attaching recording paper, forming an image receiving layer and winding toner sheets of cut form occur in a single apparatus. Michelson, at best, teaches that lamination of both a plate and a recording sheet may occur in one apparatus. This does not address the application of a binder within the single apparatus as described in claim 12. Therefore, claim 12 is patentable for this additional reason.

With further regard to claim 2, the Examiner further cites Fujimura to make up for the deficiencies of Takanashi and Michelson with regard to inclusion of the cushion layer and protective layer. Applicant would emphasize that Fujimura is not applicable to the present invention and may not be combined with the primary combination. As previously indicated in ~~XXXX~~ the August 4 Amendment, Fujimura relates to the transfer of previously formed images onto a receiving substrate, and thus would have fundamentally different concerns than the present invention. Specifically, the claims include the transfer of toners in accordance with certain recording data. By contrast, previously recorded images would not include toner transfer according to such data. Additionally, Fujimura requires simultaneous application of heat and pressure to provide the transfer, with heat and pressure being applied on opposite sides of the

} Not so -
the
image
transfer
of Figs 36-39

image-forming substrate. This would not be possible with the drum mechanisms discussed in Michelson.

see ***
Additionally, given Michelson's reliance on the vacuum holding power for successive sheets of material, Applicant would argue that further inclusion of a cushion layer would further defeat this aspect of Michelson. In particular, the cushion layer would introduce an additional surface that creates a boundary between the vacuum and overlying materials, and would increase the distance between the vacuum source and materials. Both these aspects combine to weaken the ability to provide a holding force by the vacuum. Therefore, claim 2 is patentable for this additional reason.

With further regard to claims 2 and 17, the Examiner further cites Koguchi for teaching features of these claims. However, Koguchi does not address the deficiency as discussed above with regard to the primary combination of Takanashi and Michelson. Therefore, these claims are patentable for this additional reason.

Applicant further submits that because generic claim 1 should be passed to issue for the reasons set forth above, then the non-elected claims should be rejoined in the application and also passed to issue.

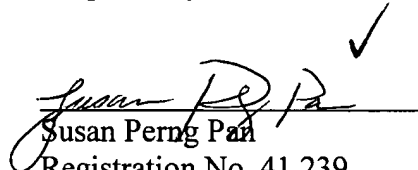
In view of the above, Applicant submits that claims 1-17 are in condition for allowance. Therefore it is respectfully requested that the subject application be passed to issue at the earliest possible time. The Examiner is requested to contact the undersigned at the local telephone number listed below to discuss any other changes deemed necessary.

AMENDMENT UNDER 37 C.F.R. § 1.111
U.S. Appln. No. 09/337,667

Applicant hereby petitions for any extension of time which may be required to maintain the pendency of this case, and any required fee, except for the Issue Fee, for such extension is to be charged to Deposit Account No. 19-4880.

Respectfully submitted,

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APPENDIX ✓

VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS:

The claims are amended as follows:

Claim 12 (Twice Amended). An image recording method for recording an image [by use of the image recording method] as set forth in any one of claims 1 to 11, wherein the steps of attaching recording paper, forming an image receiving layer, winding a toner sheet, and transferring toner are performed in a single apparatus.

Claim 17 (Amended). An image recording method as set forth in claim 2, wherein the cushion layer [is formed between the surface of the recording paper and the image receiving layer and] is in physical contact with an entire surface of the recording paper on at least one side.